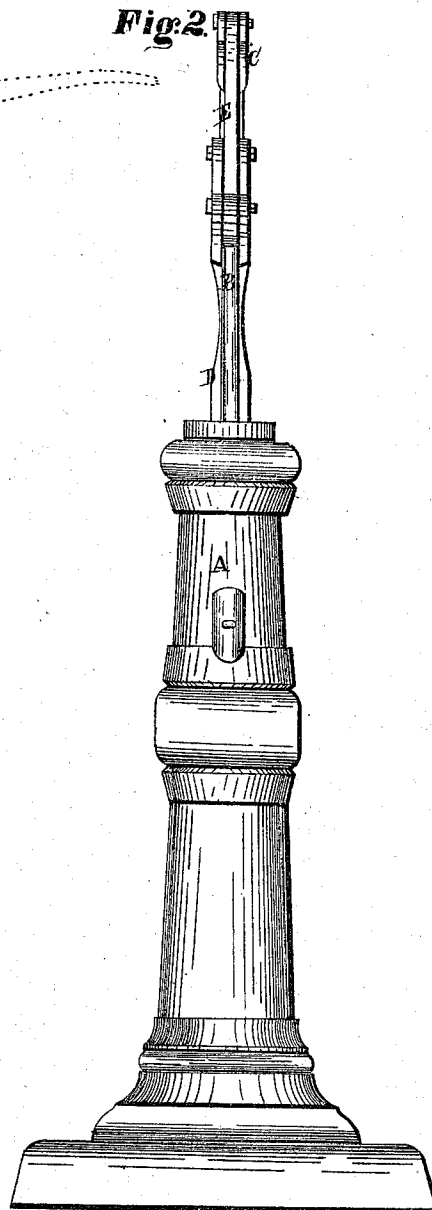
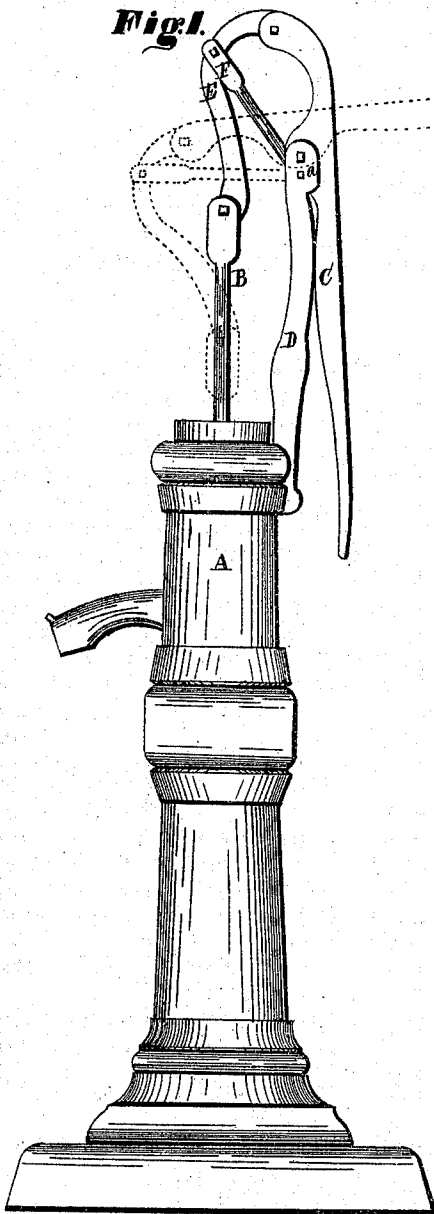


E. G. RUSSELL.
Pumps.

No. 142,123.

Patented August 26, 1873.



Witnesses.
O. S. Cornell.
A. Bingham

Inventor.
E. G. Russell.
Per. Burridge & Co.
Attys.

UNITED STATES PATENT OFFICE.

EDWARD G. RUSSELL, OF RAVENNA, OHIO.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **142,123**, dated August 26, 1873; application filed May 28, 1873.

To all whom it may concern:

Be it known that I, EDWARD G. RUSSELL, of Ravenna, in the county of Portage and State of Ohio, have invented certain new and useful Improvements on Pumps, of which the following is a full and complete description:

Figures 1 and 2 are side elevations of the pump.

Like letters of reference refer to like parts in the several views.

This invention has for its object the working of a pump-rod in a vertical line by the introduction of a link between the end of said rod and the end of the pump-handle, and the application thereto of an arm pivoted to said link and to the standard supporting the handle, whereby the reciprocating movement of the rod is caused to be in a vertical line.

The details of the construction of the invention are as follows: The pump may be like those in ordinary use, of which A represents the body; B, the rod; C, the handle; and D, the standard, in which the handle is pivoted, as shown.

It will be observed that the rod is not attached directly to the handle, but that it is connected therewith by the intervention of a link, E, Fig. 1. To the link E is also pivoted one end of an arm, F, whereas the opposite end is pivoted to the standard at the point a.

In connecting the rod to the handle by means of the link, and the application thereto of the arm, is avoided the lateral vibratory

movement of the rod while pumping, but which will move in a direct vertical line.

In this class of pumps the rod is usually attached directly to the handle, the result of which is a lateral vibratory movement of the rod which draws the plunger at each stroke hard against the two opposite sides of the chamber in which it works, thereby causing it to wear rapidly away and unevenly; hence the pump soon becomes leaky and defective in its operation. This objectionable feature of the pump is avoided in connecting the rod to the handle in the manner above described. As the rod moves in a vertical line the plunger is lifted in the same line, hence there is no unequal wearing of it by being drawn against the sides of the chamber. There being no extraordinary pressure exerted upon the plunger by the handle and pressure of it upon the sides of the chamber more than that of the packings, therefore the plunger will wear evenly all around and work much easier than a pump constructed in the ordinary way.

What I claim as my invention, and desire to secure by Letters Patent, is—

The link E and arm F, in combination with the handle C and rod B, in the manner as and for the purpose set forth.

EDWARD G. RUSSELL.

Witnesses:

J. H. BURRIDGE,
A. F. CORNELL.